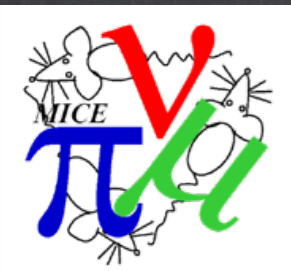




MICE Demonstration of ionization cooling paper

JB. Lagrange, C. Hunt

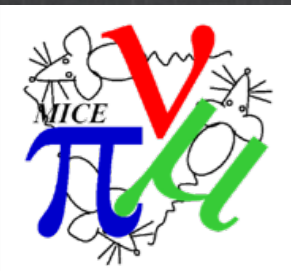


Paper

- To be published in **PRSTAB** or **JINST**
- Advanced stage for writing
- Reconstruction missing

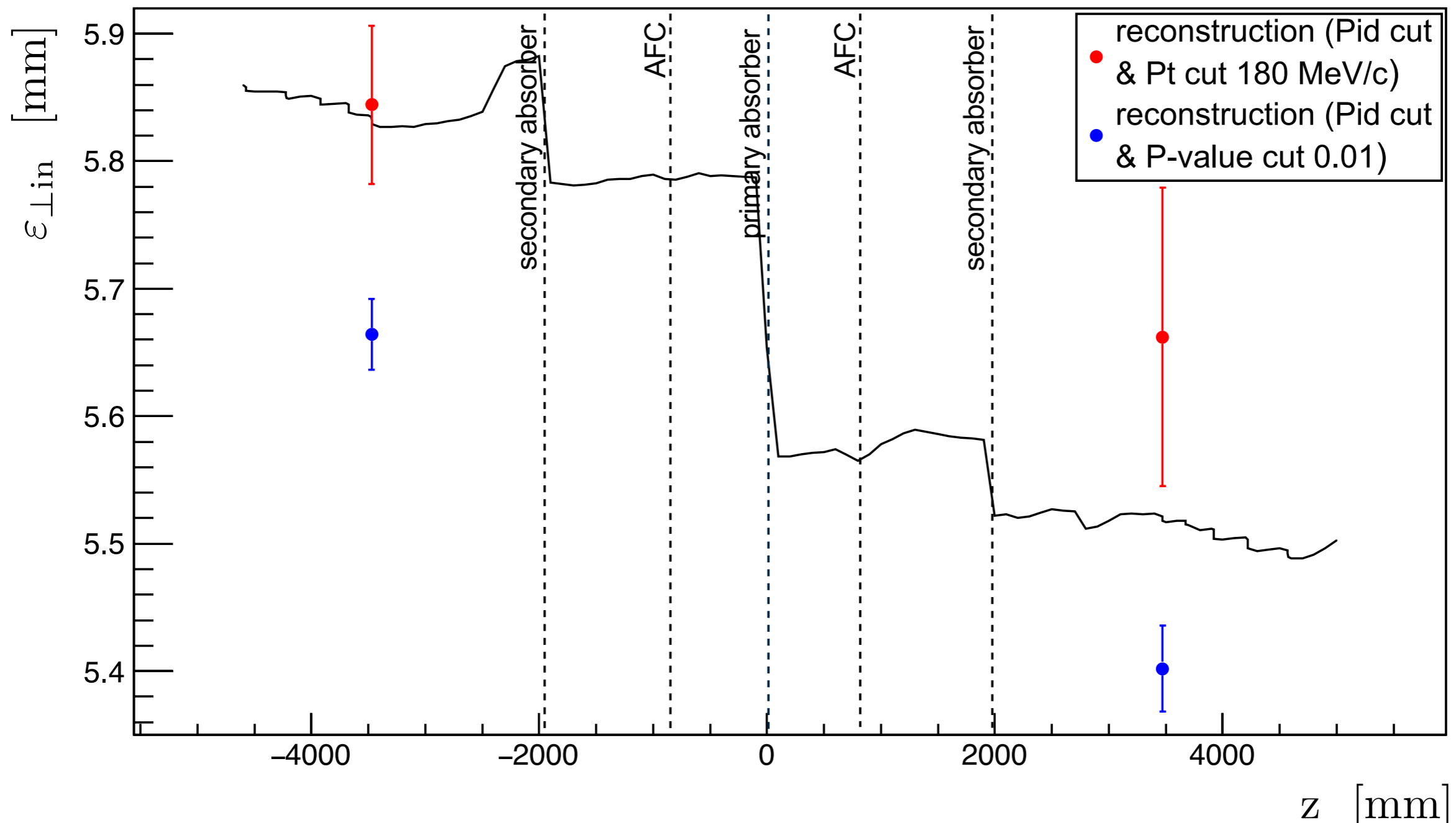
Note

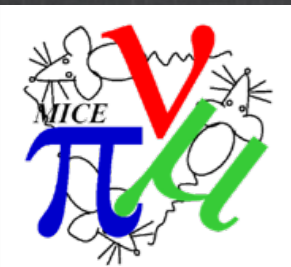
- Essentially the same than the paper with more details
- Optimization further detailed
- Longitudinal emittance
- Explanation of rms emittance change through example of 140 MeV / c case.
- Reconstruction with residuals



4D Emittance w/ recon (200 MeV/c)

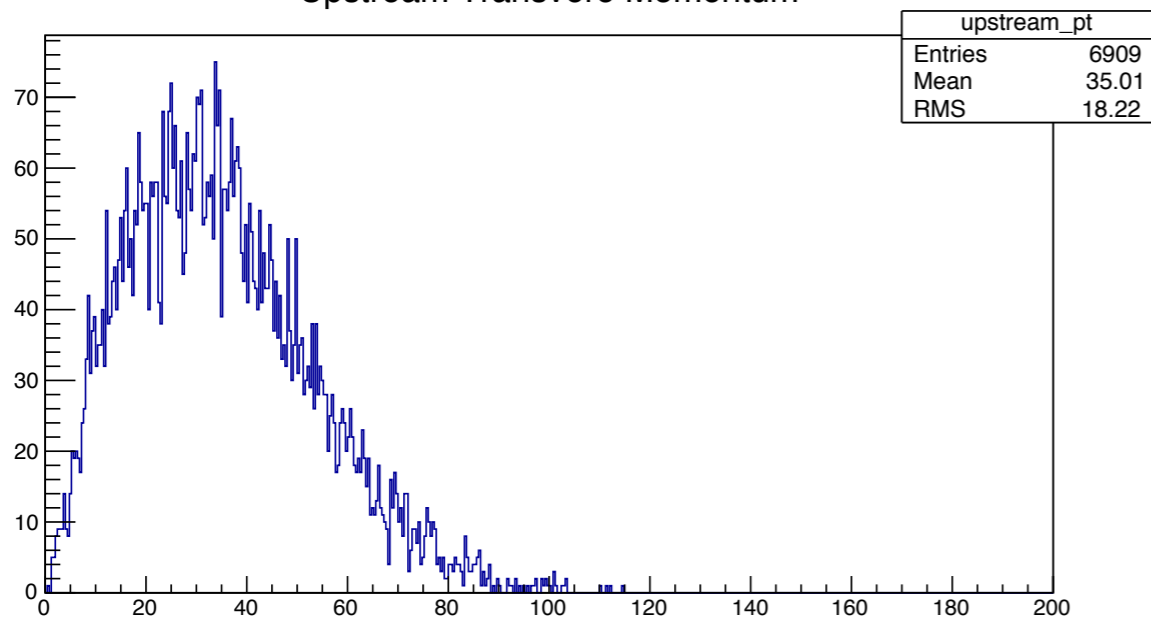
(MC cuts: PiD & radial cut of 220 mm.)



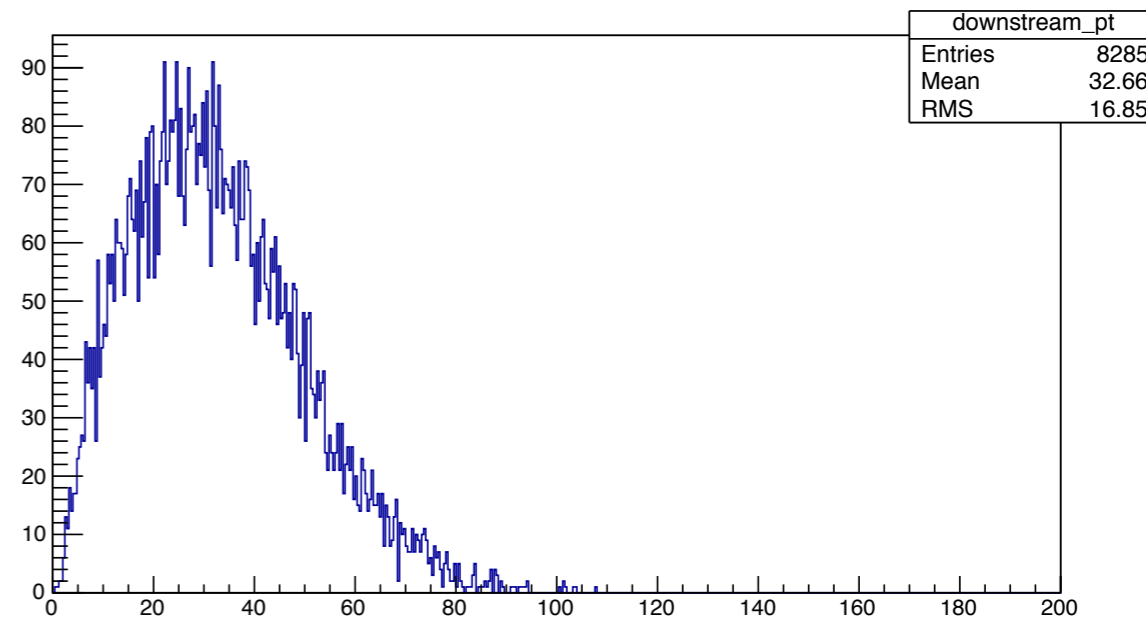


Pt MC/recon

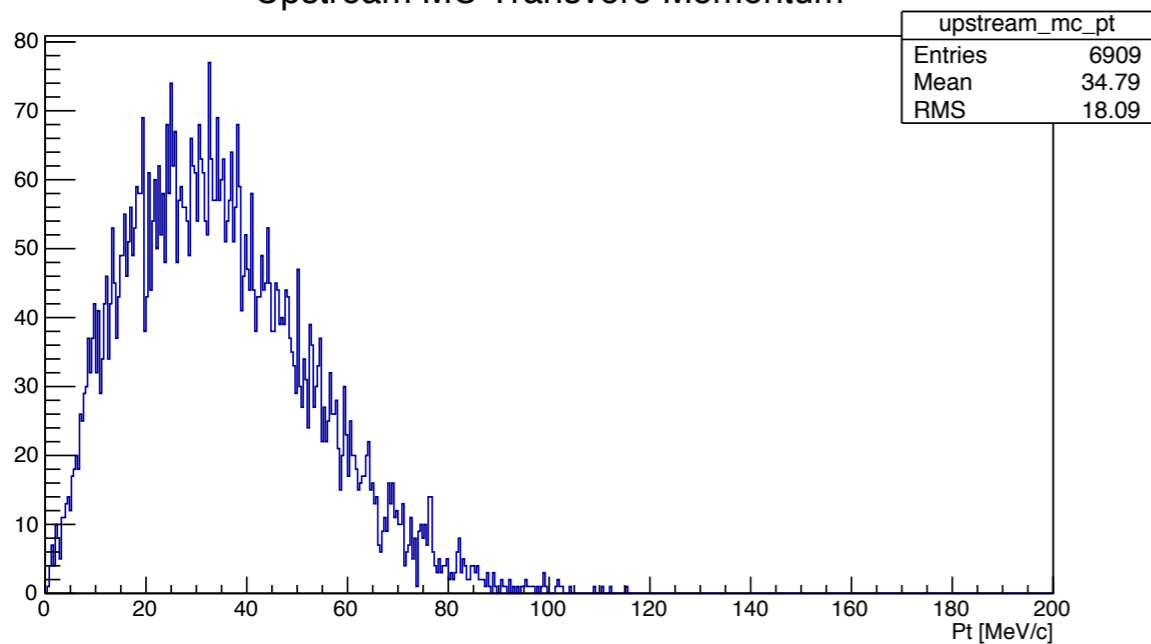
Upstream Transvere Momentum



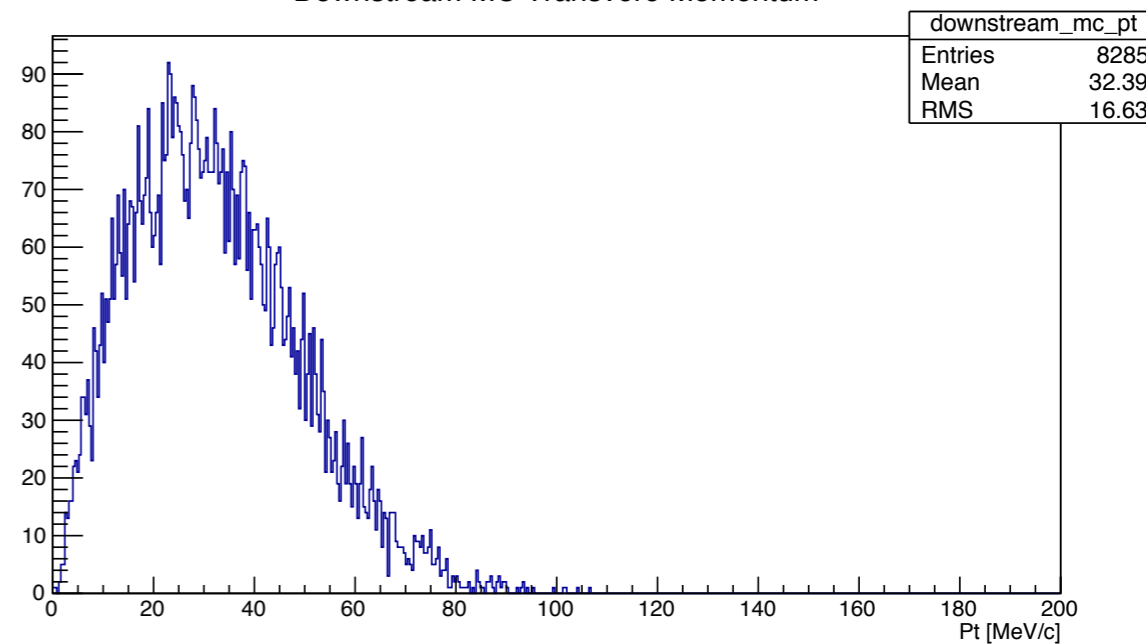
Downstream Transvere Momentum

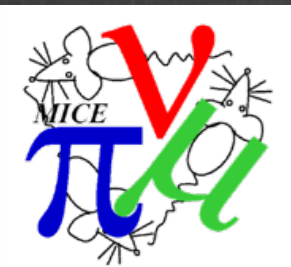


Upstream MC Transvere Momentum

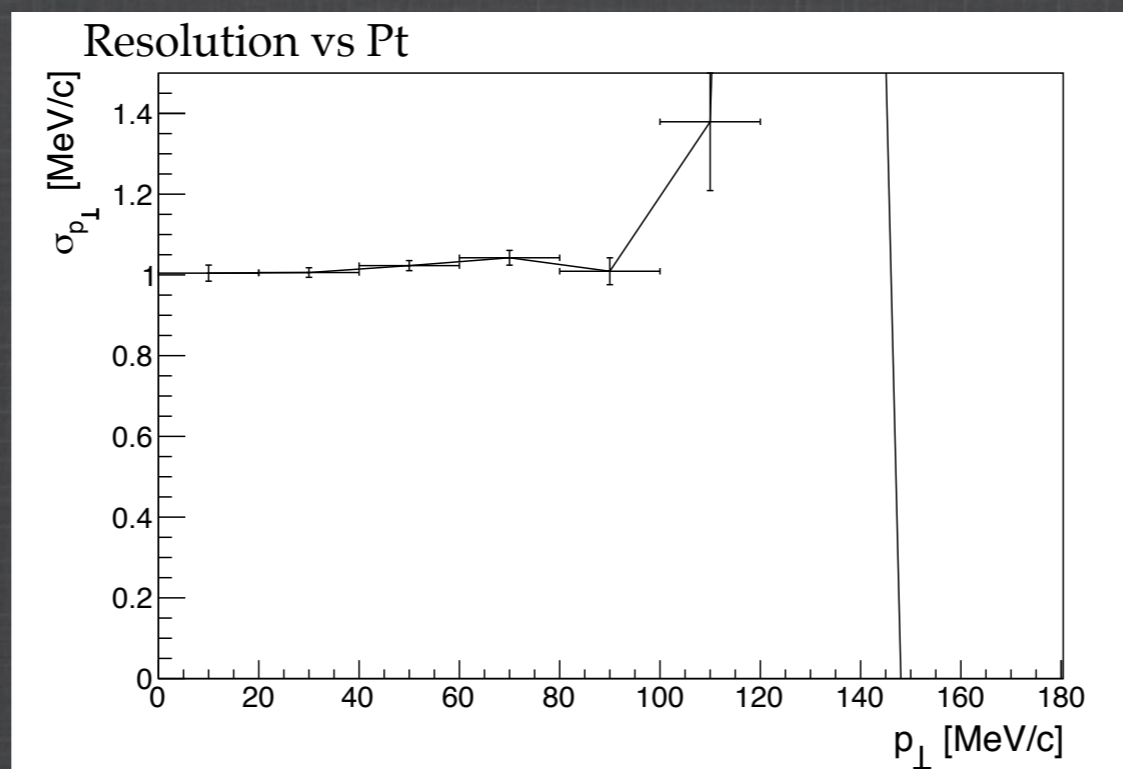
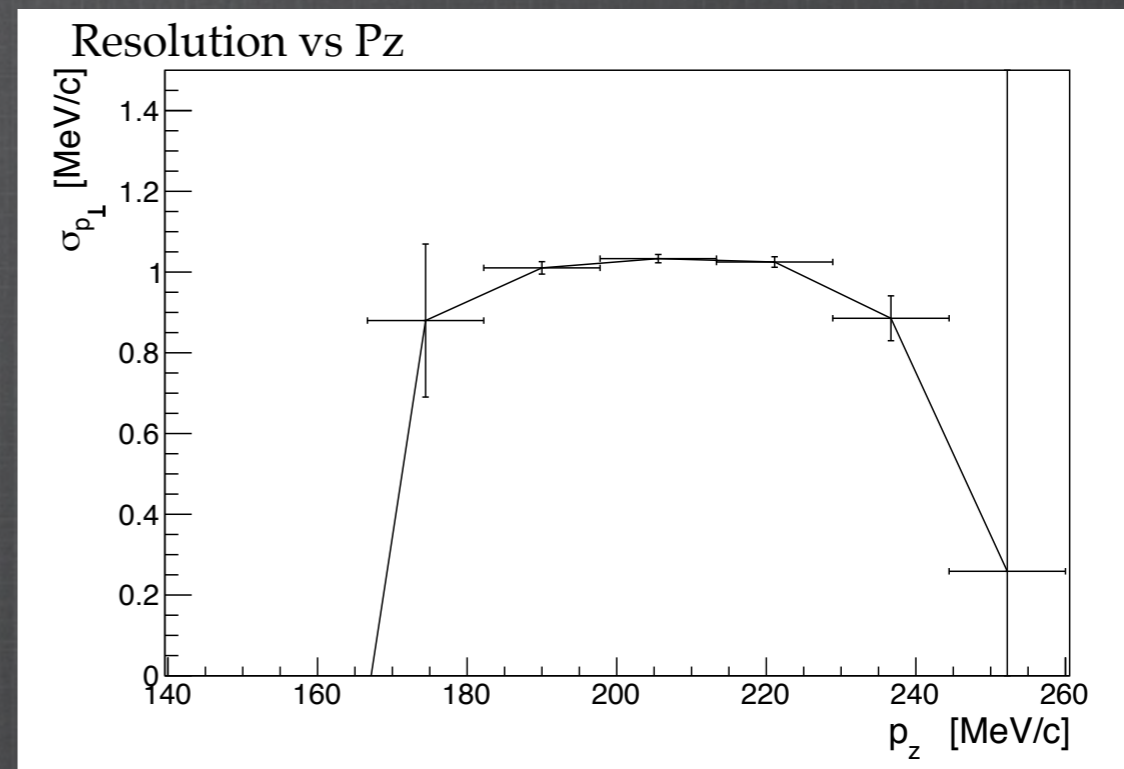
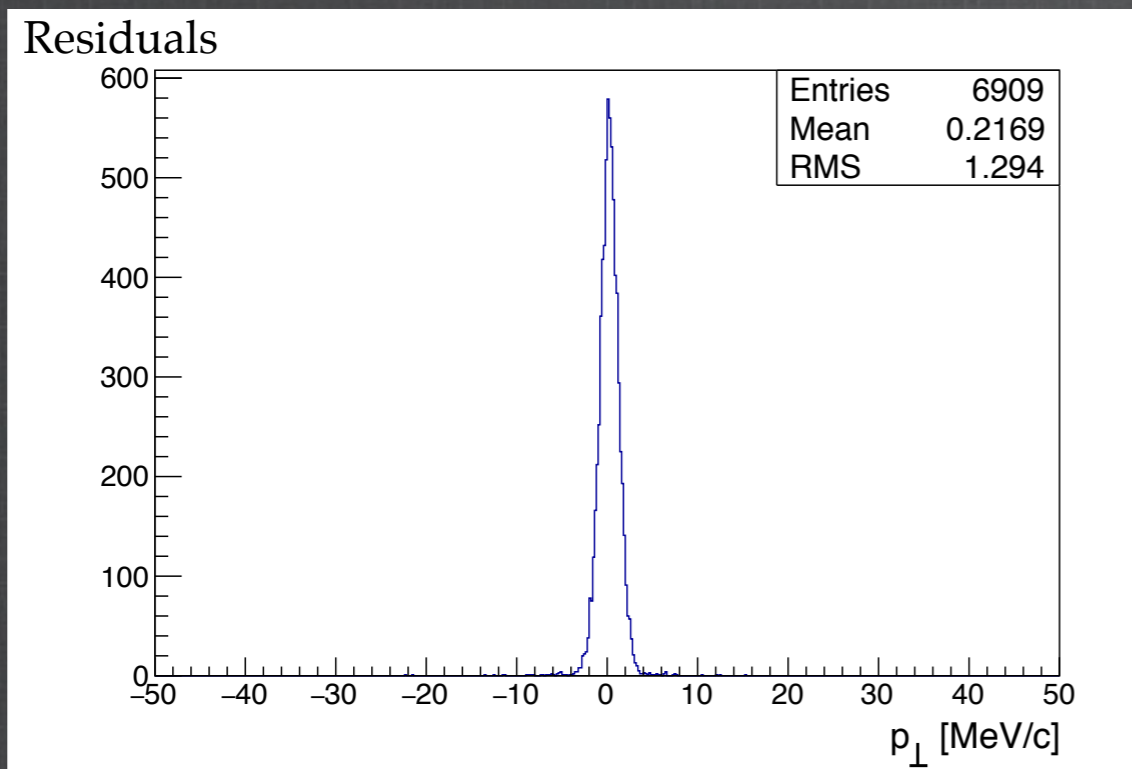


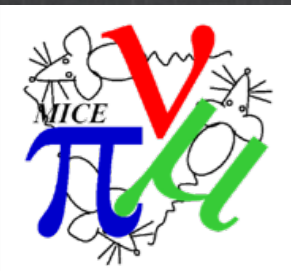
Downstream MC Transvere Momentum



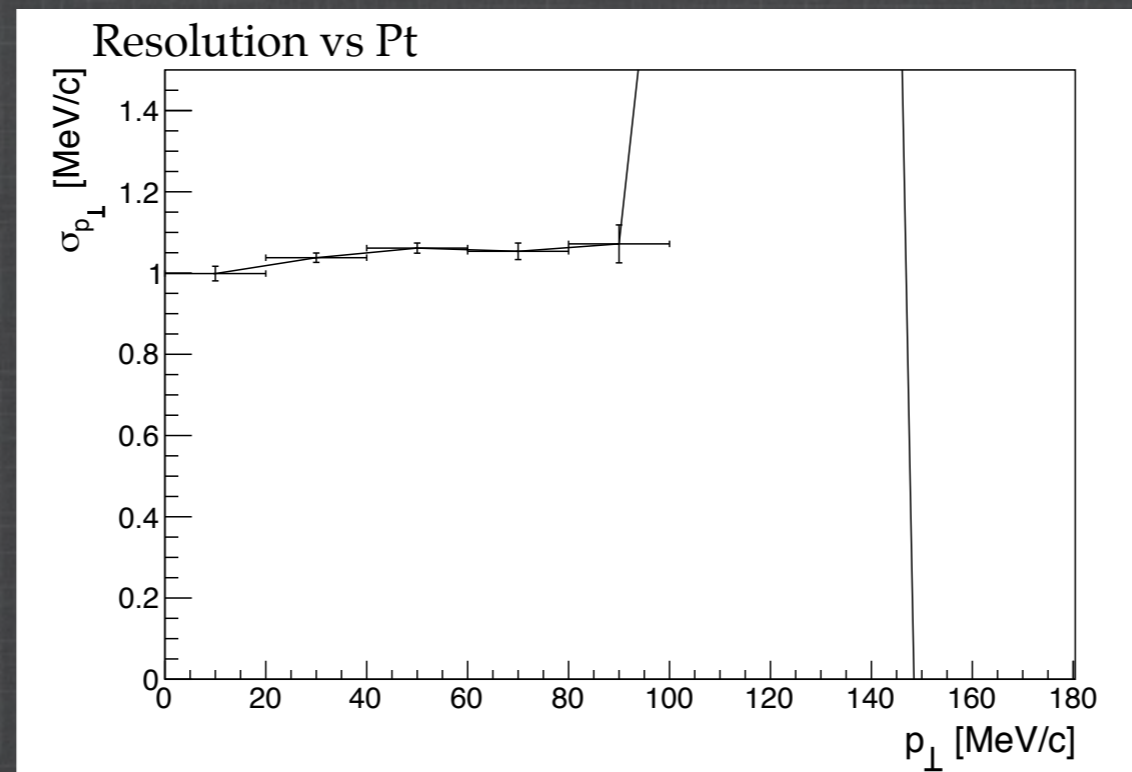
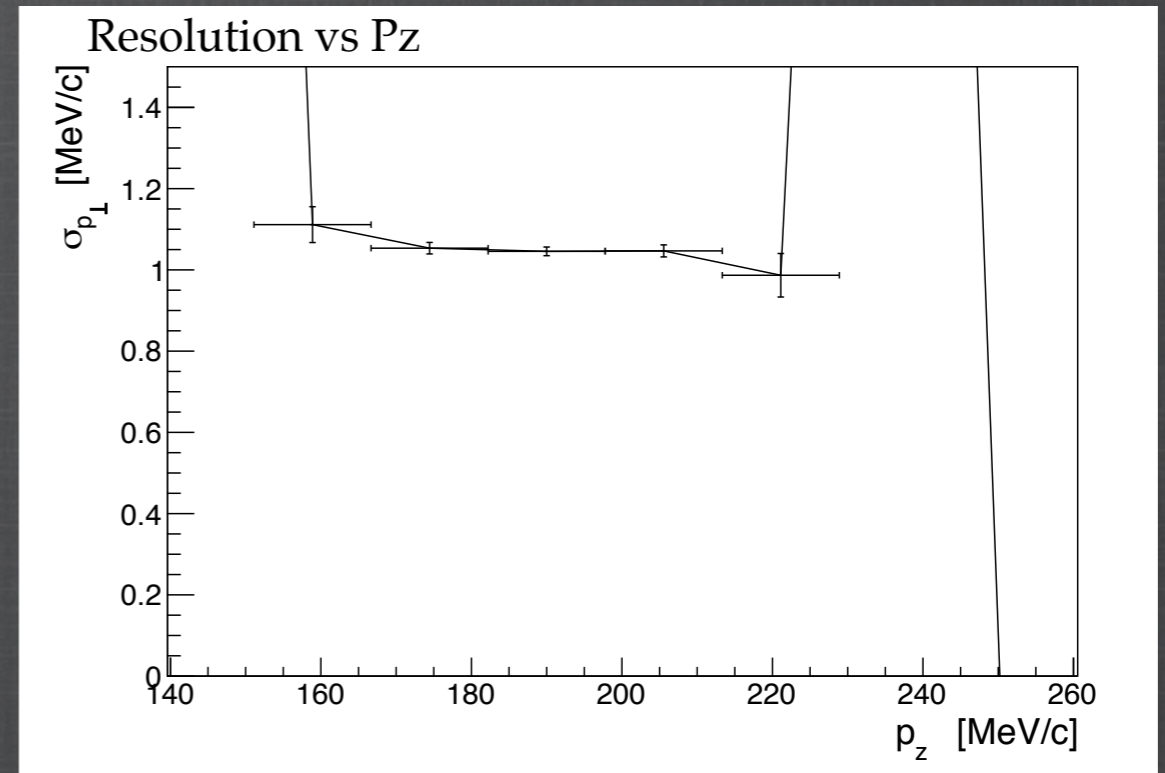
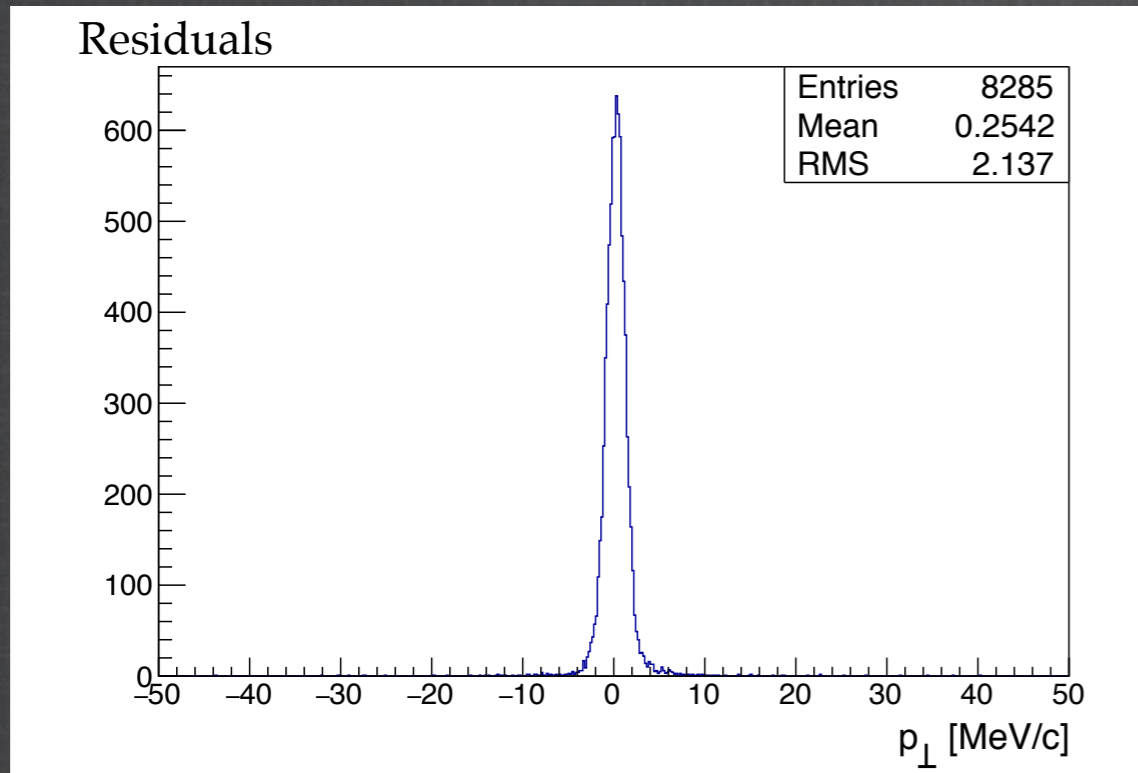


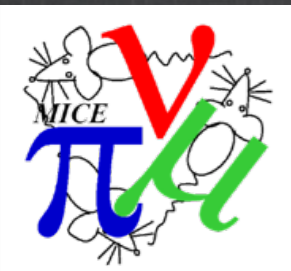
Upstream Pt





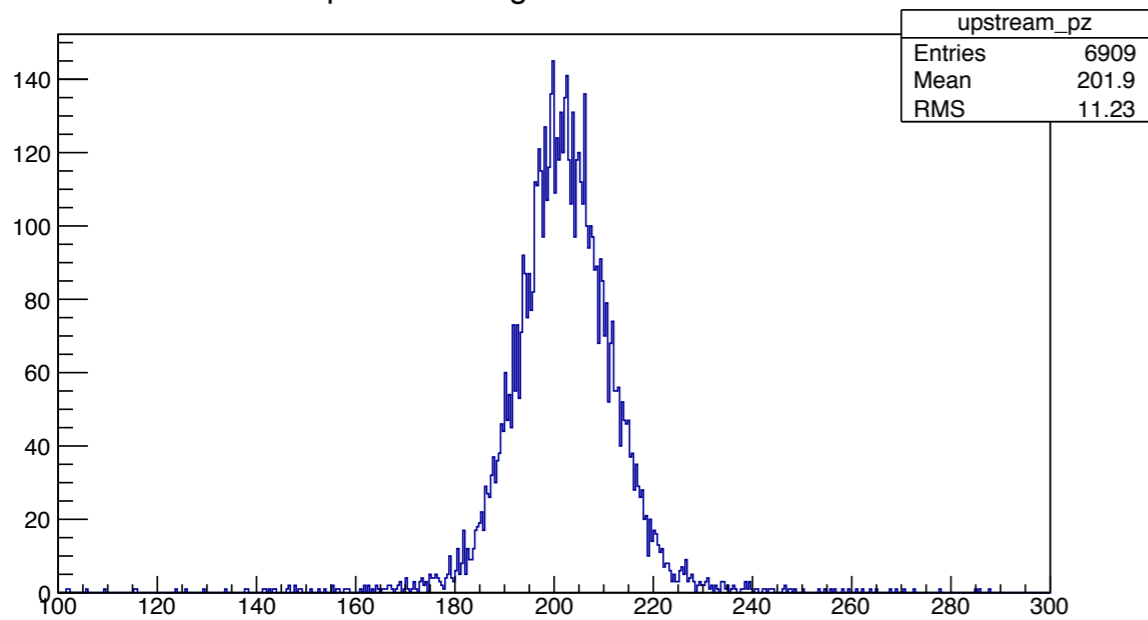
Downstream Pt



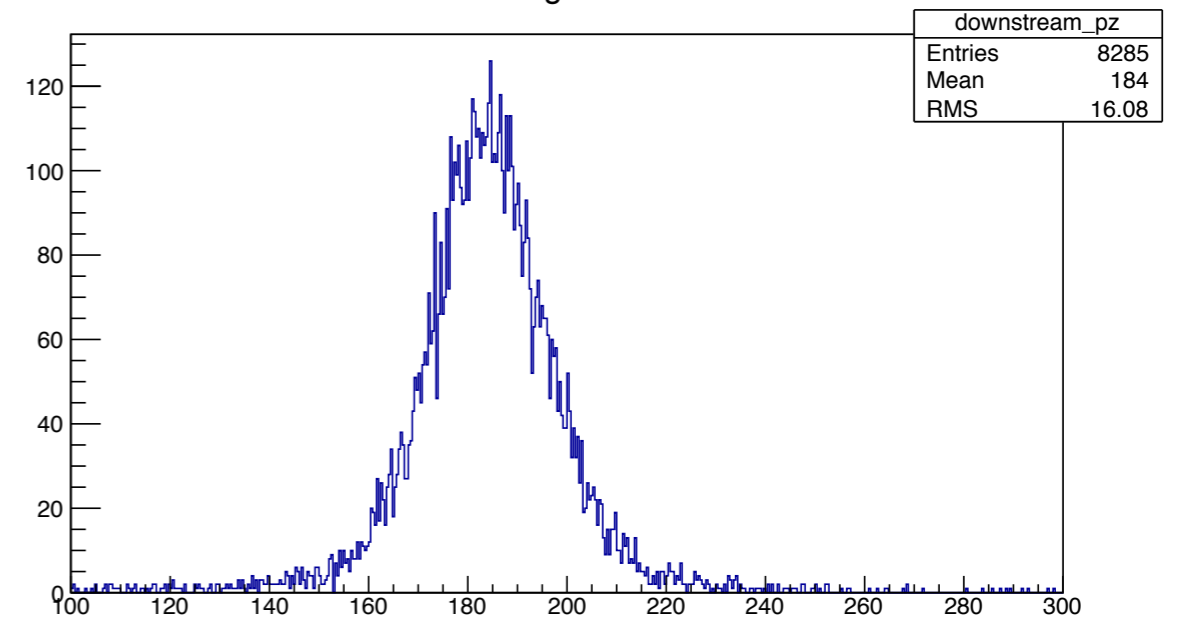


Pz MC/recon

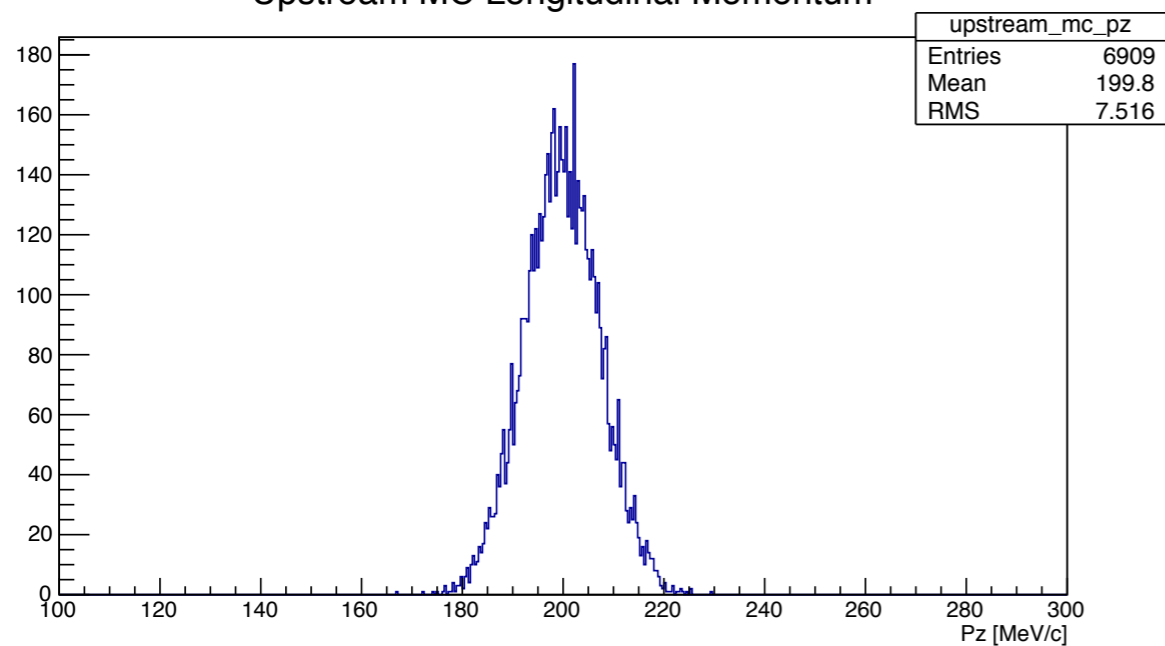
Upstream Longitudinal Momentum



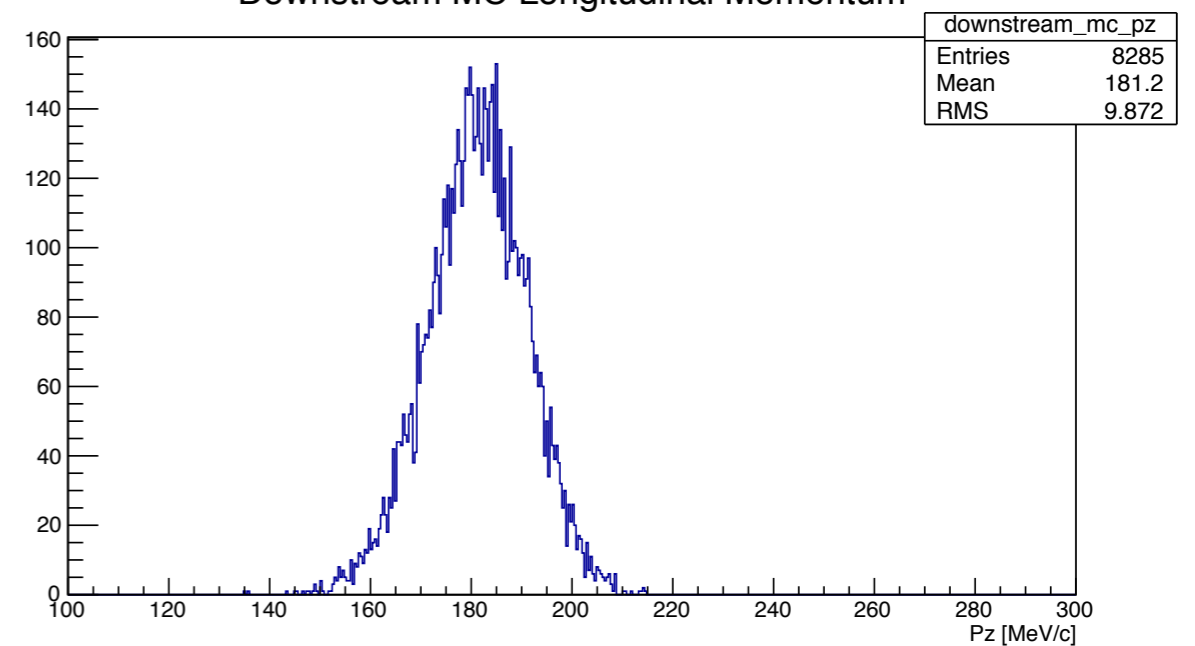
Downstream Longitudinal Momentum

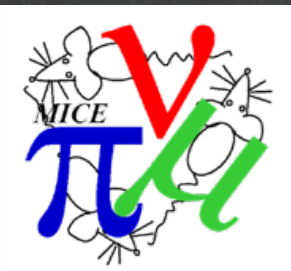


Upstream MC Longitudinal Momentum



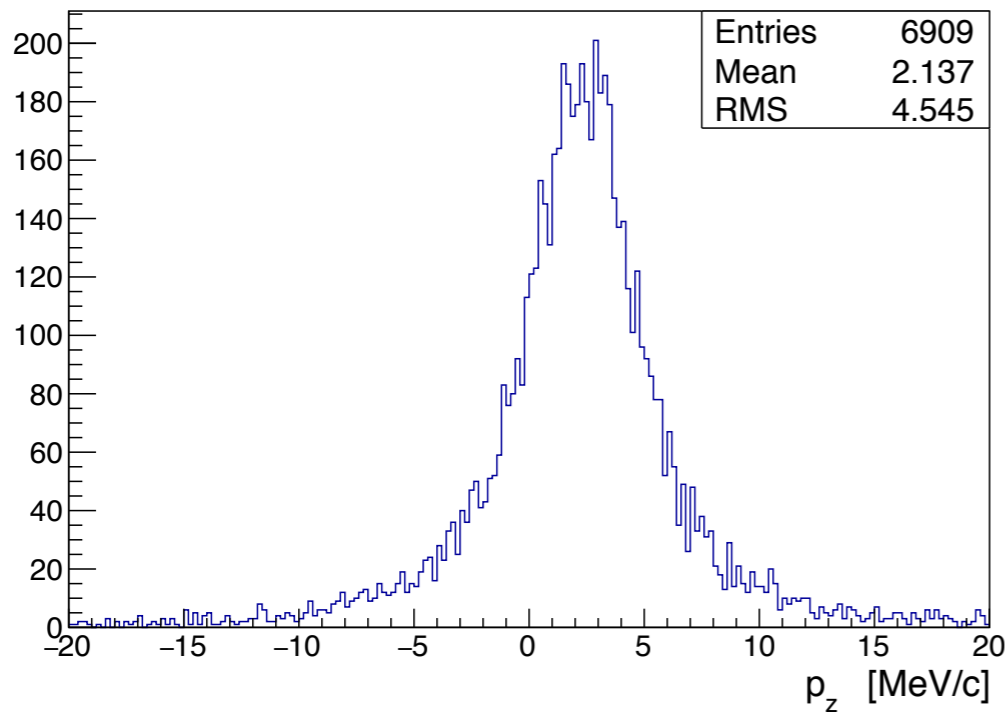
Downstream MC Longitudinal Momentum



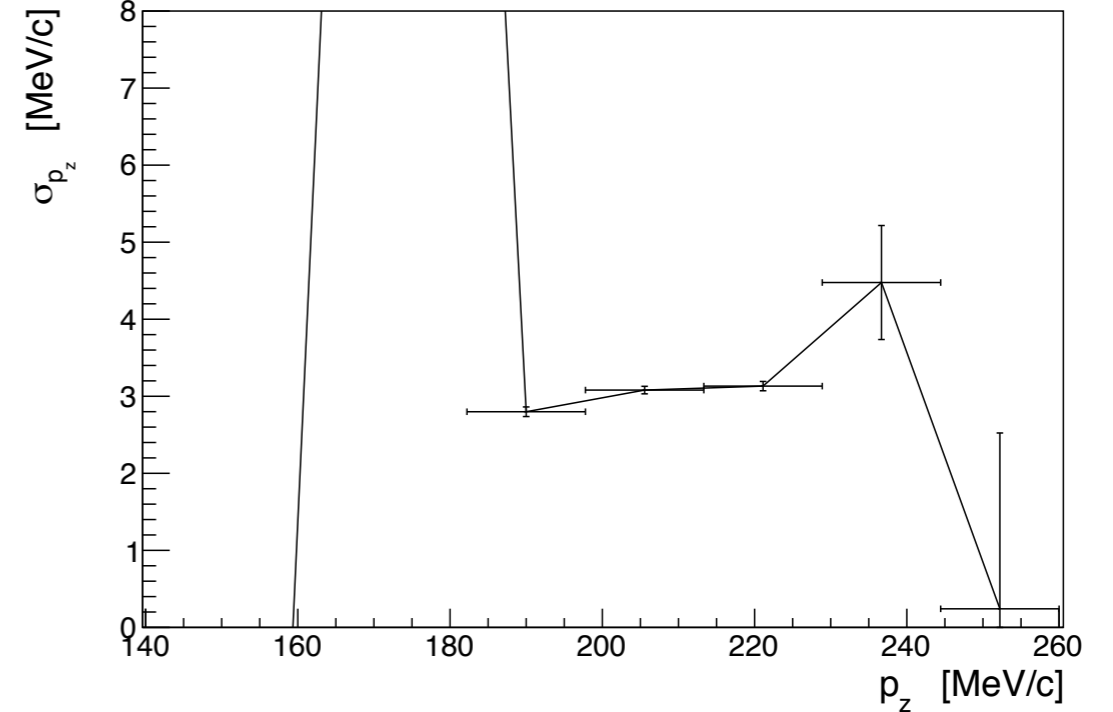


Upstream Pz

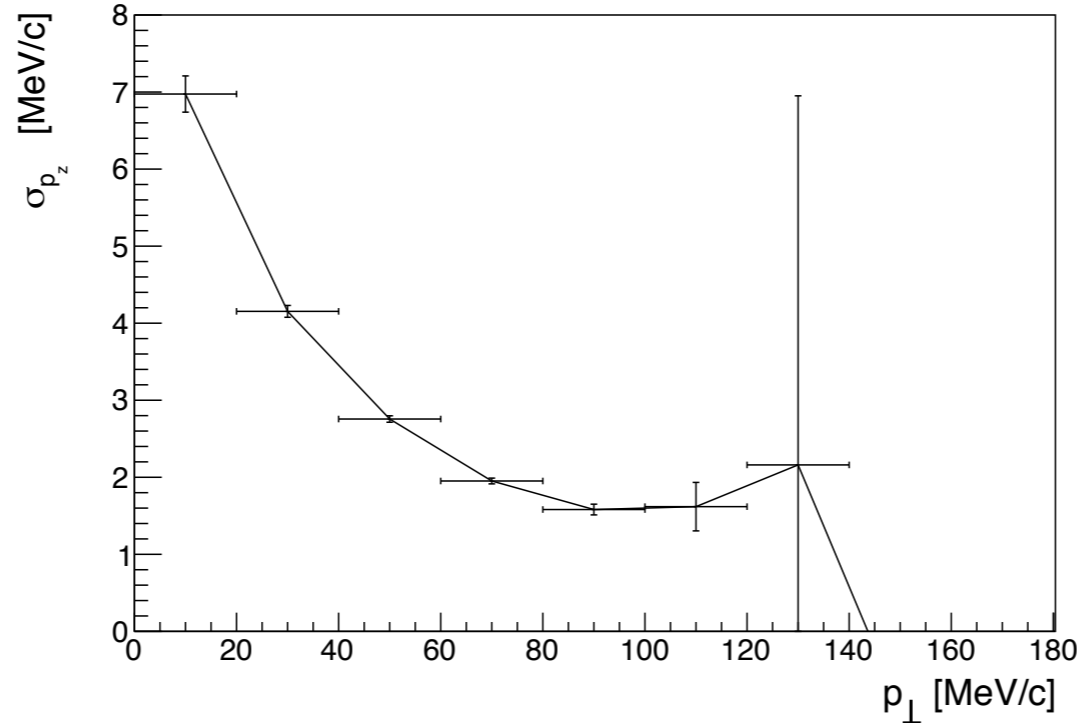
Residuals

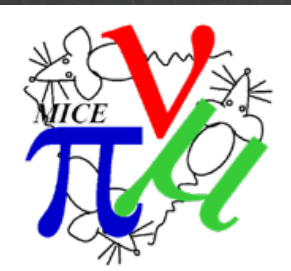


Resolution vs Pz

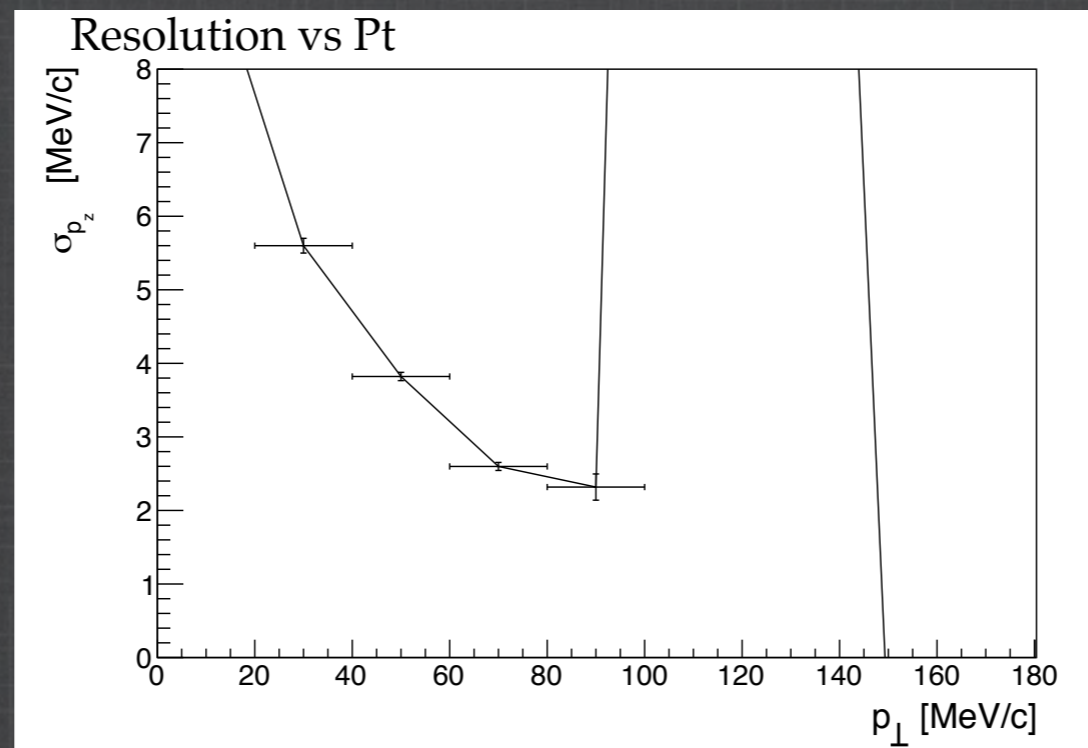
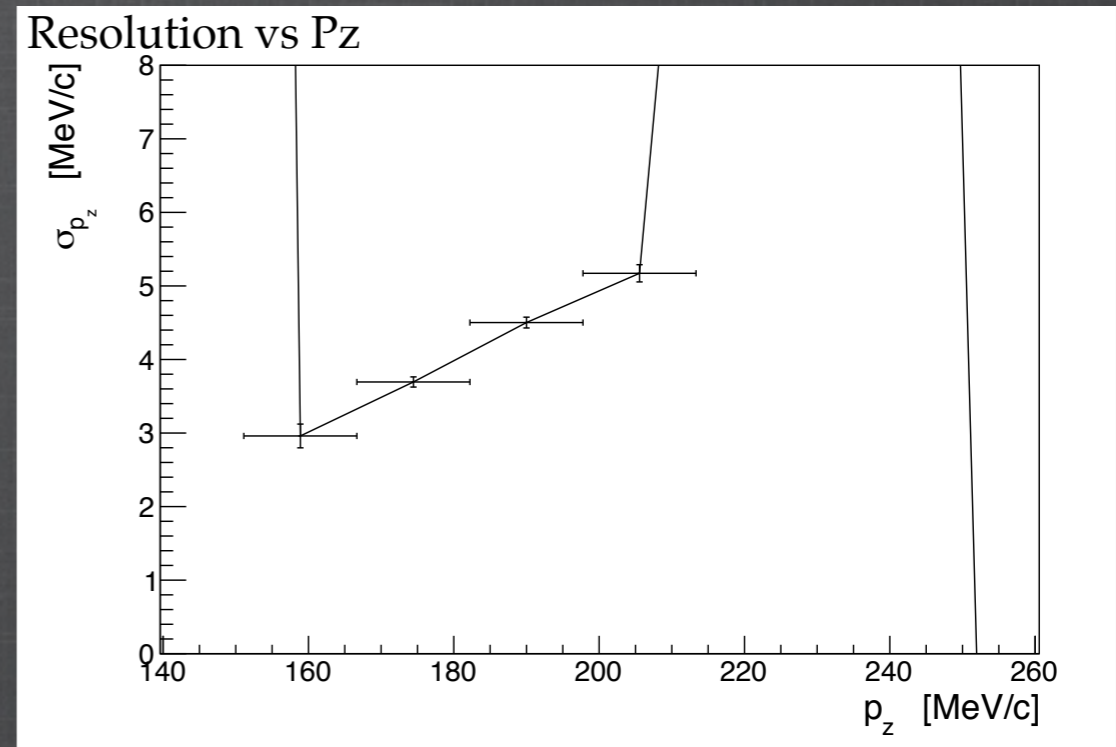
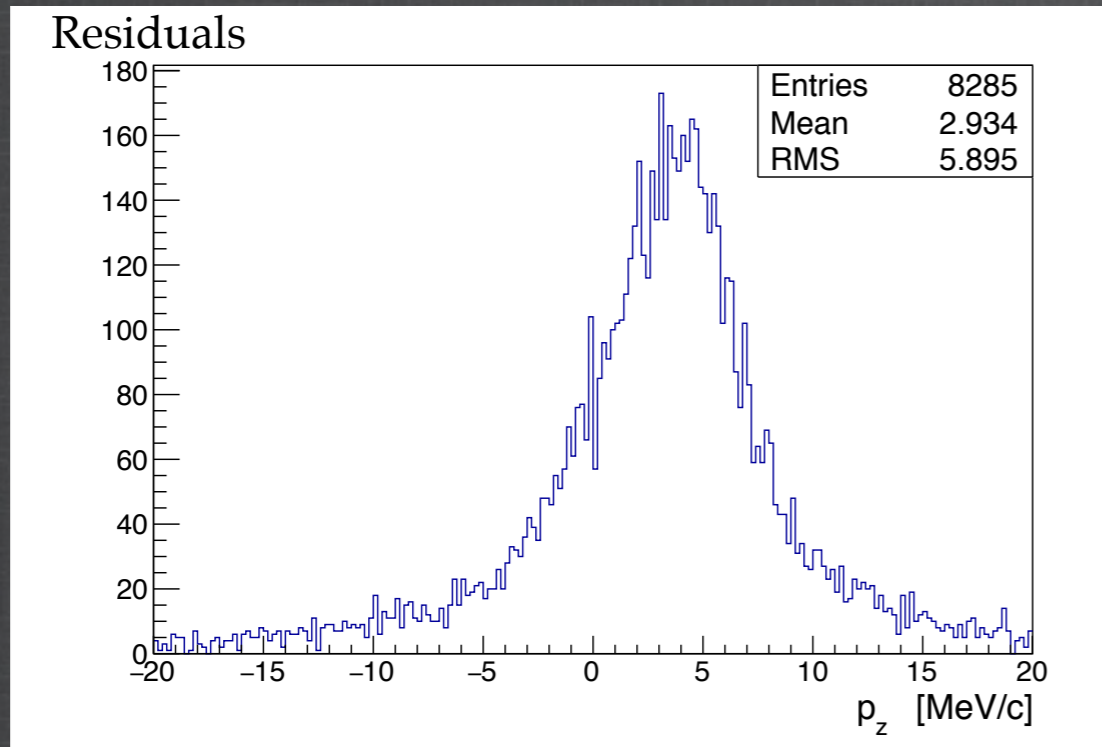


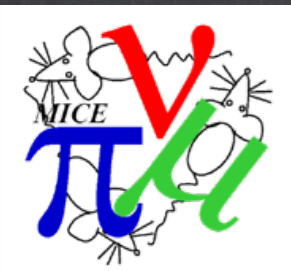
Resolution vs Pt



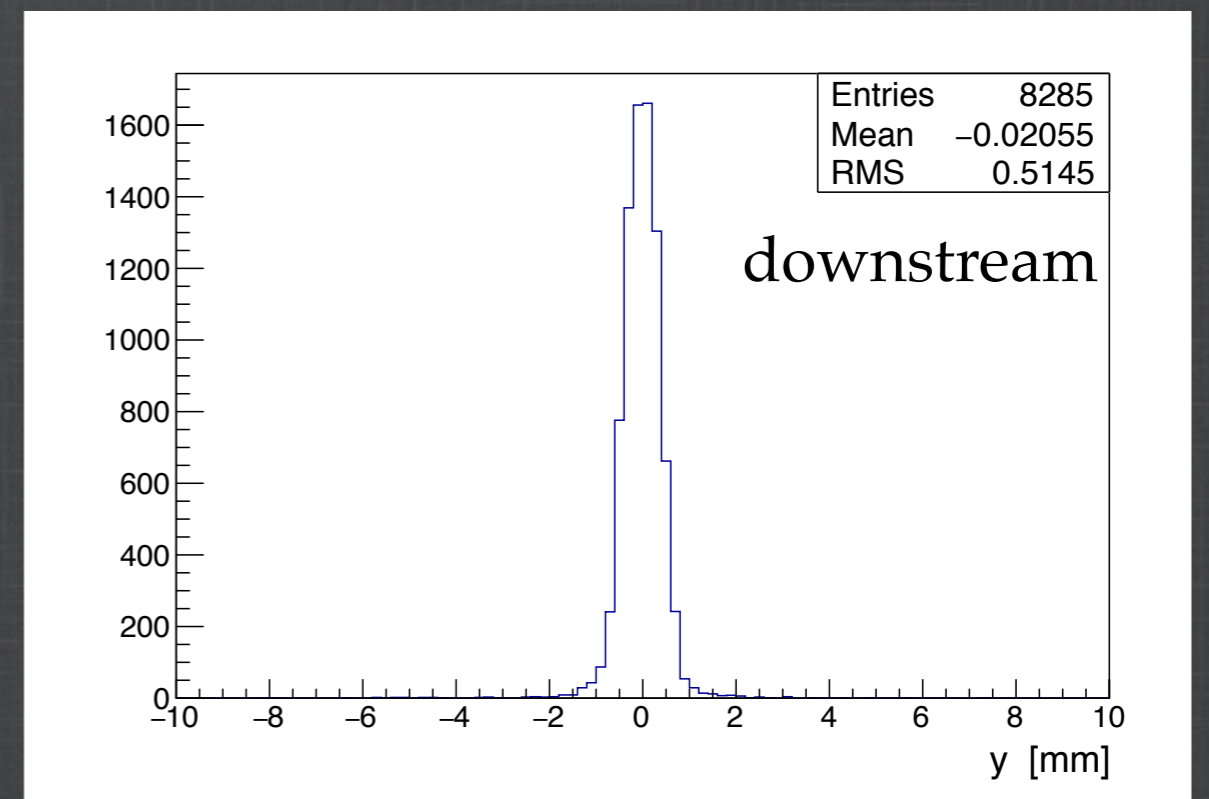
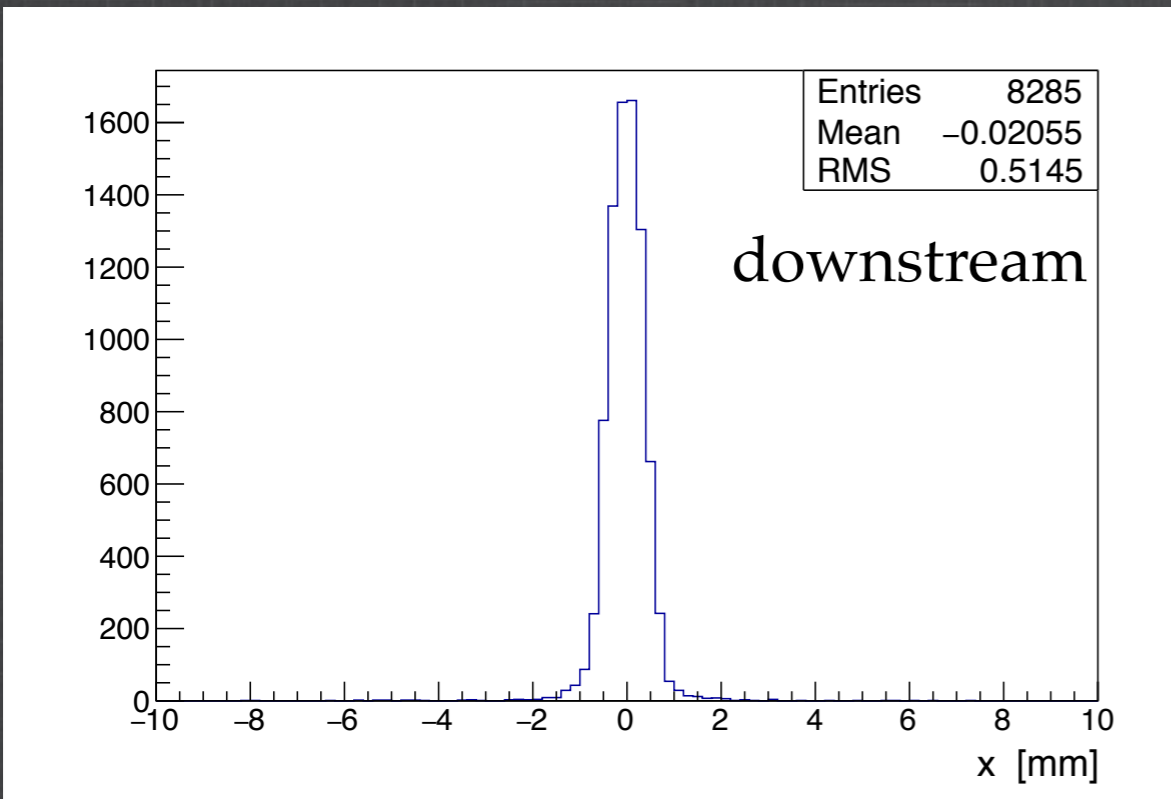
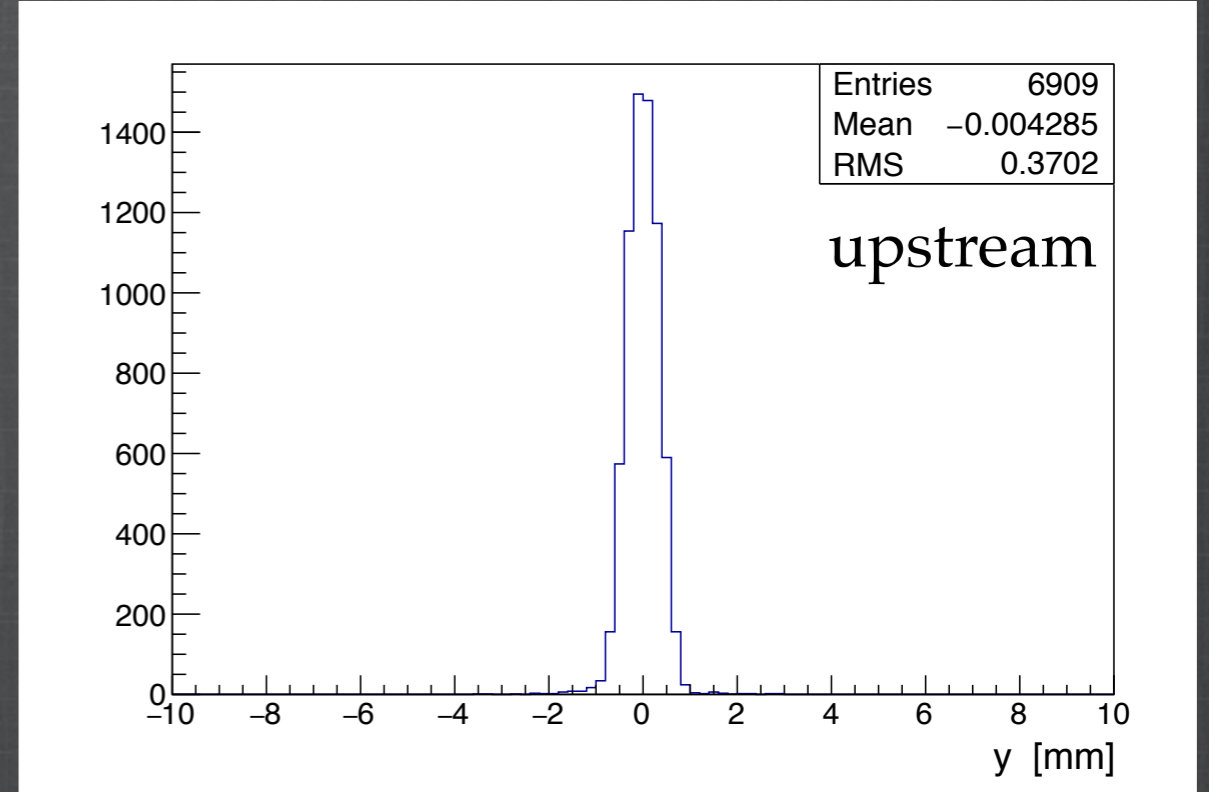
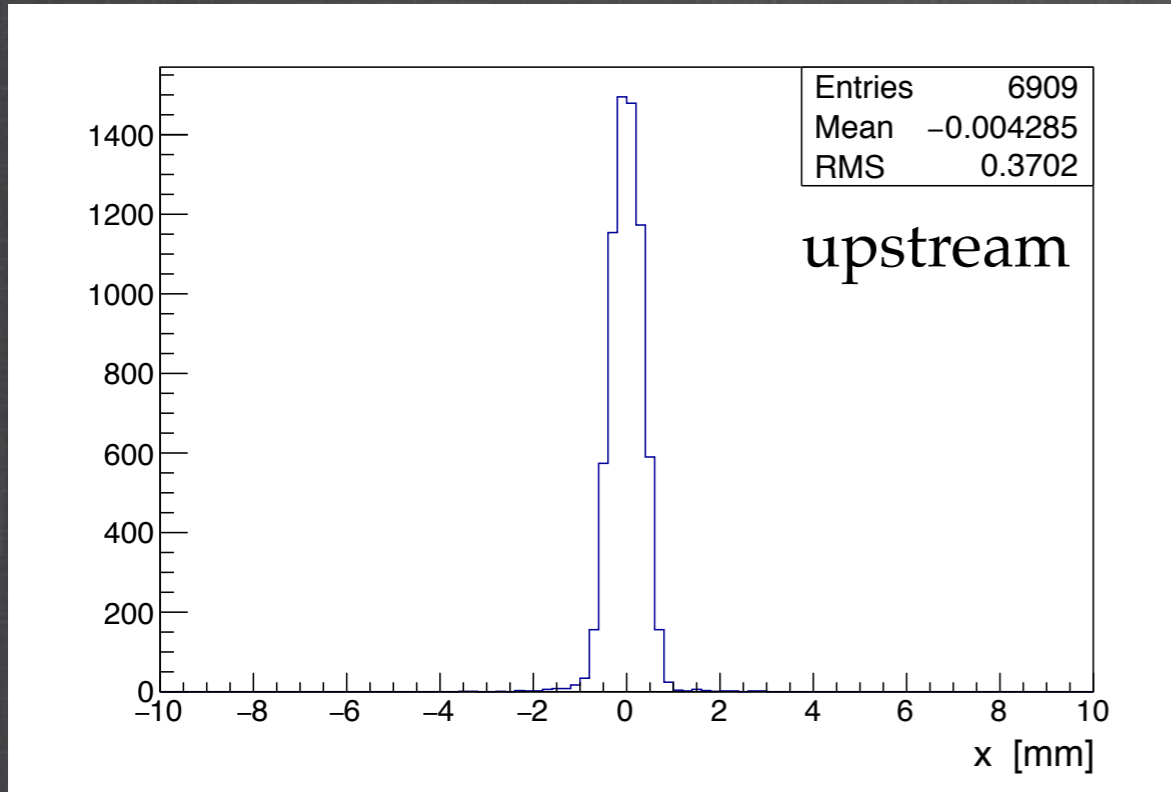


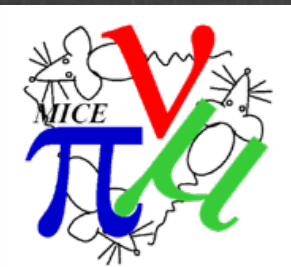
Downstream Pz





x&y residuals





Thank you for your attention